Serious leisure, home brewing, and satisfaction: Developing a theoretical model to measure satisfaction factors and predict future behavioral intentions.

Douglas W. Murray
Department of Nutrition, Dietetics, and Hospitality Management
Auburn University

and

Martin A. O'Neill
Department of Nutrition, Dietetics, and Hospitality Management
Auburn University

Abstract

The purpose of this study was to adapt an accepted and tested general leisure scale measuring satisfaction to the serious leisure activity home brewing. The development of a quantitative scale to be applied to serious leisure represents an original and much needed contribution to this subject. The secondary research purpose was to glean an understanding of the participant's future behavioral intentions toward home brewing to gain insight into the strength of future growth in the craft beer market, which is strongly driven by this group. In general the goals of the study were achieved. The correlation scores reported indicate very high satisfaction, and provide support for the notion that craft beer and ales will continue to be an important segment for both F&B and retail beverage sales. The confirmatory factor analysis indicates that the theoretical model is approaching goodness of fit. Further qualitative effort is indicated to fully fit the model.

Keywords: serious leisure, home brewing, satisfaction, consumer behavior.

Introduction

In 1982, Robert Stebbins seminally introduced the Serious Leisure Construct (Stebbins, 1982). Stebbins posited that that there is a leisure participant so strongly aligned with the activity of interest that the commitment goes far beyond the traditional definition of leisure as a simply hedonic pursuit employed as mitigation or respite from obligatory behavior such as work or family/social commitments. Home brewing offers an ideal activity through which to study serious leisure by virtue of the blend of learning, sustained effort, and creativity required to be successful. Though well-studied, the nature of serious leisure research undertaken to date has been qualitative in nature. The primary purpose of this study is to extend the literature by applying quantitative methodology to the study of serious leisure through the development and application of a serious leisure satisfaction scale applied to home brewers. The study employs correlation, exploratory, and confirmatory techniques to test the developed serious leisure satisfaction scale, future behavioral intentions, and directions for future research.

Craft beers have become an increasingly important part of the overall beverage strategy of restaurants, bars and taverns as well as, through the proliferation of microbreweries and brewpubs, an important and still growing F&B market segment in its own right. Home brewers quite justifiably consider themselves to be the engine that has spurred and continues to sustain

this phenomenal growth. The literature is quite clear that continuance in an activity, where free choice is exercised, is determined by the resultant satisfaction derived by the participant (Beard & Ragheb, 1980; Stebbins, 2001). Developing a satisfaction scale that performs reliably when applied to the serious leisure activity of home brewing is the original contribution of this research to the knowledge base.

Literature Review

Overview of the market

Craft beers have been steadily gaining market share from the large national and international beer breweries. Currently there are over 1500 craft beer brewing operations accounting for 8.5 million barrels of beer produced annually and sales in excess of $6.5 billion (The Brewers Association, 2010). The Brewers Association (2010) report shows that in the first two quarters of 2010 overall beer consumption fell by 2.7%, with domestic brands down 2.9% and imports down 9%. Craft beer sales by contrast increased 9% by volume and over 12% by revenue, providing the only positive news for the industry. This increase, in an otherwise down market, clearly indicates that the growth in craft beer sales comes at the expense of the large national and international breweries. Clearly, the potential for craft beer's continued increase in market share is indicated. The growth in both the numbers of operations combined with the continued increase in the percentage of market share and sales gives strong support to the notion that home brewers have played a significant role in the evolution of craft beer and ale on consumer behavior.

The number of small specialty brewers in the U.S. has increased dramatically since 1980; this sea change is linked to President Jimmy Carter's signing, in 1976, of legislation allowing home brewing nationally. This legislation allowed enthusiasts not only to brew for their personal consumption but facilitated small brewery and brew pub entry into the beer market. The market has changed dramatically since home brewing was legalized. Nearly every regional brewery, microbrewery, and brew pub traces its antecedents to home brewing (Carroll & Anand, 2000). The explosion of unleashed creativity due to legalization and the social and supportive interaction of home brewing enthusiasts is well documented (Ogle, 2006). These numbers highlight the incredible renewal of the brewing industry and the market potential of craft beer through the growing hunger of consumers for differentiation.

Serious Leisure

Serious leisure is defined by Stebbins (1982) as the "systematic pursuit of an amateur, hobbyist, or volunteer activity that is sufficiently substantial and interesting for a participant to find a career there in the acquisition and expression of special skills and knowledge" (p.3). Career in the discussion of serious leisure is further defined as a moral career which is not limited to occupations but that is available in "all substantial and complicated roles" in life (p.3).

There are six criteria identified to distinguish serious leisure from casual leisure pursuits and for an activity to be classified as serious leisure (Stebbins, 1992). Two of which, unique ethos and strong self-identification illustrate the understanding of serious leisure participants as a consumer market. The strength of the association with the activity itself is compounded by the strength of the bond between participants, which has coalesced into spheres of interest and

involvement for the practitioners (Unruh, 1980). Participation entails entry into a specialized social world, a critical component in assessing the seriousness of a leisure activity. There is significant research which supports this construct and these criteria (Brown, 2007; Gibson, Willming, & Holdnak, 2002) and perhaps most definitively by (Gould, Moore, McGuire, & Stebbins, 2008). Serious leisure has been studied in areas as diverse as; adventure tourism, sport participants and fans, post secondary education, volunteerism, shag dancing, and Civil War re-enactors (Brown, 2007; Dilley & Scraton, 2010; Gibson, et al., 2002; Hunt, 2004; Jones, 2000; Jones & Symon, 2001; Kane & Zink, 2004; Mackellar, 2009; Orr, 2006; Smith, Costello, Kim, & Warren, 2010).

Method

The sample

The sample was obtained through a survey administered to the membership of the American Home Brewers Association (AHA) to its membership and through them to other craft brew enthusiasts. The AHA is the national organization that supports approximately 25,000 individual members in their pursuit of the production of craft beers. The AHA as an organization represents craft brewers in national and local lobbying, dissemination of knowledge, and as a central point to support and endorse craft brewing activities.

The instrument

The survey instrument was designed based on the Leisure Satisfaction Scale (Beard, & Ragheb, 1980). The Leisure Satisfaction Scale (LSS) measures the extent to which individuals perceive that their personal needs are met through leisure activities. The shortened version of the scale was used in its entirety, with the only changes consisting of the survey page being named Home Brewing Satisfaction and the words home brewing added to the questions to contribute to the perception of relevance for the participants. This scale has been found to be reliable when tested in past research (Trottier, Brown, Hobson, & Miller, 2006). Additionally, the respondents were asked about their likelihood to continue and recommend craft beer as a means of assessing the depth of commitment to the activity and the product.

To minimize the potential for ambiguity of the survey questions, a pilot study was undertaken. The instrument was administered to a local chapter of the AHA in Auburn, AL. and feedback and comments from the respondents was solicited with an emphasis placed on the relevance and clarity of the questions. Twelve chapter members participated in the field test out of a possible 17 members. The time needed to complete the survey was monitored through the field test process. The resultant feedback led to further refinement of the instrument.

The finalized instrument was administered directly by the AHA through email to the 25,000 membership base along with the request to the members to forward the instrument to other brewers and craft beer enthusiasts. The completed surveys were collected by an online independent third party service then transformed into statistical data. The participant's anonymity has been protected throughout. The participants were asked to respond through an embedded link to the website hosting the instrument. Over 5,000 responses were collected of which 4,207 were useable with 3,449 (approx. 79%) coming from AHA members and 758 (approx. 21%) who are not members of the organization.

The instrument consists of a mix of ordinal and continuous measures. The LSS response scale ranged from 1 (very dissatisfied) to 5 (very satisfied). Analytical methods used include: frequencies, means testing, standard deviation, multivariate analyses, reliability testing, and exploratory and confirmatory factor analyses.

The AHA sent out an initial response request and an additional reminder email two weeks prior to the survey closing deadline to solicit the greatest possible response. All the responses were collected and stored on the third party website. When the survey was closed the data was exported to a spreadsheet generated from Excel software and then transferred again to the SPSS 17.0 where the sample was randomly split (n=2107, n=2100) to enable the identification of factors using Principle Component Analysis and to conduct a confirmatory factor analysis using AMOS 17.0.

Results

Demographics

Demographically the results reveal the age range possessing a relatively youthful orientation with approximately 42% falling in the 35-49 age grouping. This demographic indicates that craft brewers and enthusiasts are not a baby boom phenomenon and indicate the likelihood for the continued growth of this segment. The results shown in table 1 are striking with the overall profile of the respondent sample showing: approximately 72 % of the respondents have earned a Bachelor's or higher. The affluence of the sample is striking as well with 80% (approximate) enjoying household annual incomes above the national median of $50. Additionally, 50% (approximate) self-reported that their field of work is in one of the professions with an additional 15 percent (approximate) reporting they carry management responsibilities.

Table 1: Demographic profile of respondents

Frequency of Ages	**N**	**%**	**Gender**	**N**	**%**
<21	7	0.2	Male	4001	95.1
21-25	229	5.4	Female	186	4.4
26-34	1109	26.4	Missing*	20	.05
35-49	1746	41.5	**Total**	**4207**	**100.0**
50-65	1023	24.3			
>65	85	2.0			
Missing*	8	0.2			
Total	**4207**	**100.0**			
Annual Income	**N**	**%**	**Education Level**	**N**	**%**
<25	140	3.3	Some High School	12	0.3
25-39	258	6.1	High School Grad	118	2.8
40-54	388	9.2	Voc/tech	132	3.1
55-75	690	16.4	Some College	591	14.0
76-99	885	21.0	Associate's Degree	312	7.4
100-145	1078	25.6	Bachelor's Degree	1791	42.6
>145	699	16.6	Master's Degree	887	21.1
Missing*	69	.16	Ph.D.	359	8.5
Total	**4207**	**100.0**	Missing*	5	.01
			Total	**4207**	**100.0**

Leisure satisfaction scale (LSS)

The 24 items of the short version of the LSS was tested to identify the factors that best explained satisfaction as it applied to home brewers. The principle component analysis (PCA) technique was chosen to analyze the factors as it is psychometrically sound and this method avoids factor indeterminacy (Stevens, 2002). The further advantage to using PCA is that it provides an empirical summary of the data set (Tabachnick & Fidel, 2007).

Prior to performing (PCA), the ability of the data to meet the assumptions of normality of distribution, independence, linearity, and sample size was tested and accepted. The PCA revealed the presence of five factors with eigenvalues above 1.0 which explained 65.15% of the variance. The Kaiser-Meyer-Olkin (KMO) measure result of .878 exceeded the recommended value of .6 and Bartlett's test for sphericity result of 49949.87 $p. < 0.001$ supported the initial factorability of the correlation matrix. However, some problems with individual items appeared. In the interests of parsimony items that feel below .4 or loaded on multiple components were removed. PCA was re-run on the newly obtained five factor model with 14 variables. The data remained favorable for factor analysis with Bartlett's Sphericity test score 8043.13 $p. <0.001$ and the KMO result .838 remaining above the .6 benchmark. The five factor analysis explained a still robust 65.10% of the total variance; using fewer variables.

The modified LSS with 14 items was further tested and to aid in the interpretation of these five components Varimax rotation was performed. The rotated solution revealed an optimal loading result offering the simplicity of structure called for seminally by Thurstone (1947) (Thurstone, 1947). The loadings were clear, each with considerable values, all of them loading on only one component. The five components are identified as restoration, intellectual, social, self-actualization, and self-confidence. Cronbach's Alpha for the resultant scale was .821 indicating strong reliability for the factors. The validity of the instrument is supported by the factor loadings and clarity of the underlying structure.

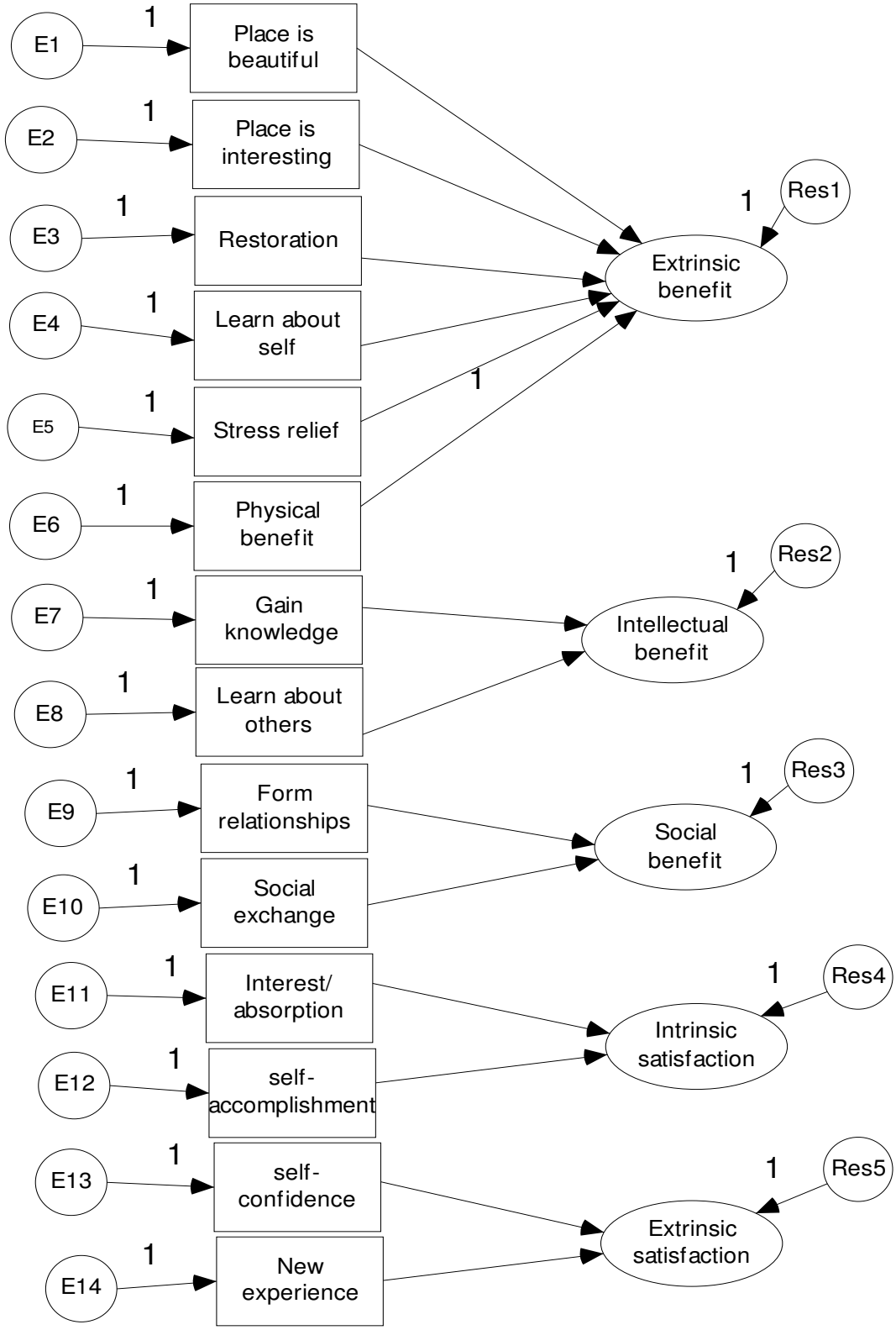
Table 2: Rotated Component Matrix

	Component				
	1	2	3	4	5
Place is beautiful	.836				
Place is interesting	.831				
Restoration	.742				
Learning about self	.659				
Stress relief	.619				
Physical benefit	.615				
Gain knowledge		.778			
Learning about others		.603			
Form relationships			.822		
Social exchange			.789		
Interest/absorption				.806	
Self-accomplishment				.784	
Self-confidence					.773
New experience					.754

The confirmatory factor analysis was conducted using the second half of the data set. The study examined the 17 satisfaction indicator variables and five factors revealed in the EFA. The theoretical model was assessed by AMOS 16 maximum likelihood factor analysis (Arbuckle, 2007).

The model was evaluated by four fit measures: (a) the chi square, (b) the normal fit index (NFI), (c) the comparative fit index (CFI), and (d) the root mean square error of approximation (RMSEA). The results generally supported the proposed model. The chi square had a value of 323.83, (df 123, n=2100), p=<.001. Considering the large power due to the sample size the lack of statistical significance speaks strongly to the goodness of fit of the proposed model. The NFI and CFI are measures of relative fit comparing the theoretical model with the null model. The optimum value of .95 for these indexes was not reached with the NFI value of .75 and the CFI value being .78. The RMSEA measures the discrepancy between the sample and population coefficients with a value <.8 indicative of a well-fitting model. The RMSEA was .043. This value being closer to zero than the < .8 standard indicates a well-fitting model (Meyers, Gamst, & Guarino, 2006).

Figure 1: Theoretical Model



Additionally, a new variable, the total satisfaction score, was created. Correlating the total satisfaction score to the questions of future behavioral intention became the next analysis focus. The intention of this analysis being to illustrate the strength of the linear relationship between the satisfaction scale mean score to the mean scores of the variables likelihood to continue and likelihood to recommend. The two likelihood questions were framed using a Likert scale ranging from 1 very unlikely to 5 very likely. The result was determined by correlating the total mean values of the satisfaction scale to the mean values of the two behavioral questions using Pearson's product-moment correlation. The correlations were found to be significant at the 0.01 (1%) level. Satisfaction correlated to the likelihood to recommend with $r = .300$, $p>.001$; and to likelihood to continue $r = .265$, $p>.001$. Thus it can be stated that the high satisfaction scores support the likelihood for continuance in and the recommendation of home brewing for the respondents participating in this study.

Conclusion

The primary purpose of this study is to adapt an accepted and tested general leisure scale measuring satisfaction to the serious leisure activity home brewing. The development of a quantitative scale to be applied to serious leisure represents an original and much needed contribution to this subject. The secondary research purpose was to glean an understanding of the participant's future behavioral intentions toward home brewing to gain insight into the strength of future growth in the craft beer market, which is strongly driven by this group. In general the goals of the study were achieved. The correlation scores reported indicate very high satisfaction, and provide support for the notion that craft beer and ales will continue to be an important segment for both F&B and retail beverage sales.

The EFA results robustly supported the clarity of the underlying structure of the LSS when applied to home brewers; while reducing the data further and highlighting the strongest relationships between the variables and the factors. The CFA likewise indicated that the theoretical model did indeed fit well with the data. The lack of significance in the chi square for a sample of this size and the low RMSEA score both provide strong support for the model fit. The NFI and CFI scores obtained from the model however fit more moderately. This moderate fit reveals that, though the Leisure Satisfaction Scale does substantially explain the variables and factors of satisfaction derived from home brewing, data is missing. The clear inference to be drawn from this study is that there must be one or more missing factors in the model and that a scale measuring general leisure does not fully explain all the underlying dimensions of a serious leisure pursuit. These findings highlight the unique role that serious leisure pursuit plays in the life of the participant. These findings further reveal and support the literature reviewed which claim that serious leisure can only be understood through full consideration of the dyadic nature inherent within serious leisure activities.

Further qualitative research based on Grounded Theory (Glaser & Strauss, 1967) has revealed that potential dimensions of historical connection and authenticity may well supply the missing components and variable needed to obtain the strongest level of goodness of fit for the scale to fully fit the model. Once the theoretical is fully realized and confirmed then the finalized Serious Leisure Satisfaction Scale can be applied to other serious leisure activities and further advance the knowledge base.

Additionally, the demographic information; income and educational level indicate that, at least for home brewers, strong market and marketing potential that may offer considerable

interest to industry practitioners. This sample represents a market niche which possesses the ways and means to pursue their interests. This type of committed F&B enthusiast is a market that could potentially be under exploited by mainstream operators. Future research examining the market positional of this and other serious leisure pursuits are needed. Such additional research might be directed at both the possible financial strength of serious leisure participants and the opportunity and appropriate methods for achieving market penetration.

References

Arbuckle, J. (2007). AMOS 16.0 User's Guide

Beard, J., & Ragheb, M. (1980). Measuring leisure satisfaction. *Journal of Leisure Research, 12*(1), 20-33.

Brown, C. A. (2007). The Carolina Shaggers: Dance as serious leisure. *Journal of Leisure Research, 39*(4), 623-647.

Carroll, G. R., & Anand, S. (2000). Why the Microbrewery Movement? Organizational Dynamics of Resource Partitioning in the U.S. Brewing Industry. *The American Journal of Sociology, 106*(3), 715-762.

Dilley, R. E., & Scraton, S. J. (2010). Women, climbing and serious leisure. *Leisure Studies, 29*(2), 125-141.

Gibson, H., Willming, C., & Holdnak, A. (2002). 'We're Gators...not just Gator fans': Serious leisure and University of Florida football. *Journal of Leisure Research, 34*(4), 397.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory*. Chicago: Aldine.

Gould, J., Moore, D., McGuire, F., & Stebbins, R. A. (2008). Development of the serious leisure inventory and measure. *Journal of Leisure Research, 40*(1), 47-68.

Hunt, S. (2004). Acting the part: 'living history' as a serious leisure pursuit. *Leisure Studies, 23*(4), 387-403.

Jones, I. (2000). A model of serious leisure identification: the case of football fandom. *Leisure Studies, 19*(4), 283-298.

Jones, I., & Symon, G. (2001). Lifelong learning as serious leisure: policy, practice and potential. *Leisure Studies, 20*(4), 269-283.

Kane, M., & Zink, R. (2004). Package adventure tours: markers in serious leisure careers. *Leisure Studies, 23*(4), 329-345.

Mackellar, J. (2009). An examination of serious participants at the Australian Wintersun Festival. *Leisure Studies, 28*(1), 85-104.

Meyers, L., Gamst, G., & Guarino, A. (2006). *Applied multivariate research: Design and interpretation*. Thousand Oaks, CA., Sage Publications.

Ogle, M. (2006). *Ambitious brew: The story of American beer*. Orlando, Fl.: Hardcourt.

Orr, N. (2006). Museum volunteering: Heritage as 'Serious Leisure'. *International Journal of Heritage Studies, 12*(2), 194-210.

Smith, S., Costello, C., Kim, K., & Warren, J. (2010). Marathons as serious leisure tourism. In J. Chen (Ed.), *Advances in hospitality leisure* (Vol. 6, pp. 43-58). Bingley, Bradford, UK: Emerald Group Publishing Limited.

Stebbins, R. A. (1982). Serious leisure: A conceptual statement. *Pacific Sociological Review, 25*(2), 251-272.

Stebbins, R. (1992). *Amateurs, professionals, and serious leisure*. Montreal: McGill-Queen's University Press.
Stebbins, R. (2001). The costs and benefits of hedonism: some consequences of taking casual leisure seriously. *Leisure Studies, 20*(4), 305-309.
Stevens, J. (2002). *Applied multivariate statistics for the social sciences*. Hillsdale, NJ: Lawrence Erlbaum Publishing.
Tabachnick, B., & Fidel, L. (2007). *Using multivariate statistics* (5th ed.). Boston: Pearson Education.
The Brewers Association, (2010). Beer Information/Education. *Craft brew statistics* Retrieved March, 18, 2010, from http://www.beertown.org/education/stats.html
Thurstone, L. (1947). Multiple factor analysis. Chicago, IL: Chicago University Press.
Trottier, Angela, Brown, T., Hobson, S., & Miller, W. (2006). Reliability and validity of the Leisure Satisfaction Scale (LSS - short form) and the Adolescent Leisure Interest Profile. *Occupational Therapy International, 9*(2), 131-144.
Unruh, D. (1980). The nature of social worlds. *Pacific Sociological Review, 23*, 271-296.